PRISONS—IRELAND.

REPORT

OF

MAJOR BEAMISH

ON THE

LONDONDERRY PRISON;

WITH

OBSERVATIONS

OF THE

GENERAL PRISONS BOARD.

Presented to both Houses of Parliament by Command of Her Majesty.

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MAJOR BEAMISH'S REPORT.

Home Office, Whitehall, S.W.,

24th September, 1889.

LONDONDERRY PRISON is built on the upper slope of the hill just outside the old city walls. It has accommodation for 182 male and 47 female prisoners.

The male prison consists of a number of cells built in the form of a horseshoe in three tiers, the cells being on the inside of the curve in a single row, with a corridor to the outside. The Governor's house and the Chapel are in the centre, and on the upper ground there are two detached blocks of cells, also in single row, with a corridor.

The exercise yards for the male prisoners are between the chapel and the inside of the horseshoe block.

The male hospital is placed as a detached building on the lower ground, outside the horseshoe block to the east.

The female prison is built in the form of a T, the head of which is parallel with Bishop-street.

The chief warder has quarters in this block, as also the matron and female officers.

Male Prison.

The cells of the male prison are of small dimensions, varying from 400 cubic feet in the detached blocks, to 503 cubic feet on the ground floor of the horseshoe block. They have generally stone floors, but there are sixteen with wooden floors. There are, however, a couple of larger cells in the detached blocks which are provided with wooden floors, and they have each a cubic space of 675 feet. These cells are used for 1st Class Misdemeanants.

The cells and most of the corridors are warmed in winter by means of hot water pipes, which are placed at the floor level on each tier under the windows.

The fresh air is admitted from both sides of the buildings through the cell and corridor windows.

In most of the cells the doors are perforated with small holes near the floor, and over the doors are openings 4½ in. by 3 in.

The lighting is by gas jets in the cells and gas brackets at intervals along the corridors.

The windows of the cells open inwards, with bottom hinges on the hopper principle, giving, when fully open, not much more than 50 square inches for the air to pass in or out.

There is plenty of air in the corridors when the casement windows in them are open, and when the cell doors and windows are likewise open, there is an abundance of fresh air in the cells, but when the doors are closed, which must necessarily be the case when the prisoners are confined to their cells, there are not sufficient means for the renewal of the air.

The total inlets and outlets together (the windows being open) do not amount to more than 74 square inches.

It is now considered desirable to secure for each prisoner, when in his cell, 3,000 feet of fresh air per hour. This is somewhat difficult to obtain without draught, unless there are ample passages for the air, and that some effective means are adopted for the extraction of the foul air.

In the English prisons each cell is provided with an outlet for foul air of 54 inches area, in connection with an exhaust shaft, an inlet for fresh air of the same size, and a hopper ventilator in the window in addition, and these are found to be fully required

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to keep the cells in a fresh condition when occupied. The ground floor cells of the horseshoe block are provided with larger windows, viz. :—2 ft. 2½ in. by 2 ft. 11 in. These are hung on central pivots, and give a considerable amount of fresh air when open.

Reception.

There is no Reception Ward, but in one of the detached blocks the prisoners on arrival are placed in a waiting-room. Near to this there is a room of moderate size in which the descriptions are taken, and the prisoners are bathed. The heating apparatus for the whole block, as well as for the bath-water, is placed in this room. The apartment is therefore crowded and the air impure.

Opening out of this apartment there is a store which contains both the clean prison clothing and the private clothes of the prisoners, which are placed here after a process of disinfection by sulphur fumes, and the air is tainted with their smell.

Male Hospital.

The Male Hospital is in the same building as the Officers' Mess.

On the ground floor there is a ward with open fire, wooden floor, and three windows. There are three beds in this room placed in bunks formed by wooden partitions, the tops being covered by wire netting. The daylight and circulation of air are thus much reduced. The cubic capacity of this ward is not more than 1,592 feet.* It is usual now to allow 1,200 feet for each hospital patient. There is no bath or w.c. on this floor for the patients, and I understand that this ward is seldom required. There are two other wards on the first and second floors. These have each 1,728 cubic feet, and are fitted with four beds each. They have w.c.'s attached in separate annexes, and there is a good porcelain bath for one of them. There are no sinks in the hospital, nor any supply of water, hot or cold, for drinking or washing. The water has to be carried from the Officers' Mess, or a stand pipe in the back yard.

Female Prison.

The cells of the female prison are of much better size than those of the male—being from 845 to 916 cubic feet in size. They are lighted, heated, and ventilated on the same principle, but the windows are larger, and the openings for air amount in some cases to 198 square inches. The cell floors are of wood and stone, in about equal numbers.

There are two large cells for the association of three prisoners in each—one with a stone, and one with a wooden floor, and there are three rooms with open fires and wooden floor for hospital purposes.

There is no ward set apart for reception purposes, and there are only two baths for 47 prisoners; one of these has to be used for prisoners on reception, and when they are in a dirty state, and as the bath is in the same chamber with the second, there is some risk of the spread of disease with this arrangement, should an infectious case be brought into the prison, unless the greatest care is exercised by the staff to disinfect the chamber.

Drainage

The closets are of modern construction, of the "wash-out" type; they are provided with waste preventer flushing cisterns of three-gallon capacity, and they are kept in very good order.

There are sufficient closets for use in the Prison, and also for those exercising in the yards.

The soil-pipes are fixed to the outside of the walls and are of cast-iron. They are carried with open ends well above the roofs, but they are deficient of disconnecting traps and air inlets at the foot.

The rain-water pipes are, in most instances, disconnected from the drains. They terminate with shoes, either over a grating and trap, or an open channel.

The soil-drains are, for the most part, 6-inch stoneware pipes, with cement joints—those of the male prison join at the centre of the horseshoe block, passing under the prison building with a 9-inch pipe, the drainage from the Hospital then joins the system, and a 12-inch pipe passes out of the Prison at the lowest level, to join the public sewer in Bennett-street.

At the end of the system there is a Buchan's disconnecting trap, which effectually cuts off all the public sewer gases and admits fresh air to the bottom of the prison drain.

*For correction of the measurements of this and the two other wards in the Male Hospital, see foot note to the observations of the Board in reply (page 7).

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At the top of the system there are 6-inch ventilating pipes carried up the gable-walls of the detached blocks.

The female prison is drained into the public sewer in Bishop-street, by means of 6-inch stoneware pipes, in a similar manner, the drains being provided with Buchan's traps and 6-inch ventilating pipes carried up above the roofs.

Each section of the drainage system can be flushed with water from cement cisterns, specially provided for the purpose, at the highest points; and I was informed that the drains are flushed daily.

It has been mentioned that the drainage of the male and female prisons are taken into the public sewers in different streets. These sewers have different outfalls into the Foyle river. That which takes the drainage of the male prison has only to carry in addition the soil and rain-water which comes from a few cottages in Victoria-place and Bennett-street, and it is not connected with the other sewerage of the city. The whole length of this sewer is only about 1,000 feet. At the lower end, before it terminates with a tidal flap, there is a large man-hole, with a perforated cover, and the flap is so hung that air can pass into the lower end of the drain until the flap is covered by the tide.

I saw the outlet at high-water of neap tide, the flap was then but half covered.

At high-water of spring tides, no doubt, the flap is quite covered, but this can only be for a short time.

It would be well, perhaps, if a ventilating pipe were placed at the top of this sewer, to prevent the possibility of a pressure of gas in the sewer at any time; but even without this arrangement, I do not think that any pressure can come even at the highest tides sufficient to break the seal of the Prison disconnecting trap, as the sewer does not terminate at that point, but passes beyond and above it for 250 feet horizontally, and 23 feet vertically.

With regard to the sewer in Bishop-street, into which the drainage from the Female Prison is carried, this is a larger sewer, and there may be, perhaps, more danger of a pressure of gas in it occasionally, but it has several manholes with perforated covers along the course of the street, and I was informed that it delivers into the river in a similar manner to the Bennett-street sewer, and at about the same level as regards tide.

I think that there is but a remote chance of danger to the Prison from the pressure of sewer gases under the circumstances, and this could be entirely obviated by turning the Female Prison drainage into that from the Male Prison, and making use of the Bennett-street sewer only in future.

Ashpits.

There is only a small ashpit in the Female Prison, which is cleared daily, and it is not in any way liable to give rise to a nuisance, but at the S.W. angle of the Male Prison there is a large hollow in the ground in which the ashes and other dry refuse accumulate for some six months before a clearance is made. This is not a good sanitary arrangement. Refuse of this kind should not be allowed to accumulate in a Prison for any length of time.

Water supply

The water supply for all purposes is from the Corporation Reservoir, with a head of about 100 feet.

The Borough Surveyor has been good enough to furnish me with the analysis which was made of this water in June last, and it is attached to this report for your information.

The water is stored in the Prison in a large cast-iron cistern, supported on brick walls, and placed in one of the yards, on the highest ground to command all parts of the Prison.

In one portion of the cistern, reserved for the drinking water, there is a filter made of animal charcoal, cocoa-nut fibre, sand and gravel, the materials of which are said to be renewed every four months. There is a slight discolouration and turpidity of the water in the cistern, and it would be well for a special analysis to be made of it, so that the cause to which this is due may be discovered.

I doubt the propriety of the use of cocoa-nut fibre in such a filter, and possibly some better oxydising agent than animal charcoal might be used. The cistern is kept very clean, and is washed with lime internally.

The supply to the prison is through iron pipes.

Although I have mentioned certain defects, the chief of which are the want of size and sufficient ventilation of the cells of the male prison, yet the record of the health of the prisoners and staff is a remarkably good one.

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There has not been any zymotic disease amongst the prisoners for twenty years, and only one case of typhoid fever, that of a female warder, about eight years ago, and there is no evidence that this case arose in the prison.

To accomplish this good result it would appear that no pains have been spared to keep the prison in a clean condition—the drains have been kept free from all deposit by constant flushing, and the water supply has been of good quality.

ALTEN BEAMISH, Major, R.E.

City Surveyor's Office, Londonderry,
3rd September, 1889.

REPORT of ANALYSIS of a SAMPLE of DRINKING-WATER supplied by CORPORATION, LONDONDERRY.

SAMPLE of OLD CITY BASIN, June 19th, 1889.

	Grammes per Gallon.
Total solids in solution,	10·25
Consisting of :—	
Organic and volatile matter,	4·40
Mineral and saline matter,	5·85
And containing :—	
Chloride of sodium (common salt),	1·95
One hundred million parts yield :—	
Free ammonia,	6·00
Albuminoid ammonia,	12·00
Hardness on Clark's scale,	3·

(Signed), J. R. LEEBODY, D Sc.

Magee College, June 21st, 1889.

NOTE.—The water in the basins shows a very satisfactory degree of purity, and if only people could be induced to use it for drinking directly off the main, or from carefully cleansed cisterns, there would be little cause of complaint as regards its quality.

J. R. LEEBODY.

OBSERVATIONS OF THE GENERAL PRISONS BOARD ON MAJOR BEAMISH'S REPORT.

14532—89.

General Prisons Board, Dublin Castle,
10th January, 1890.

LONDONDERRY PRISON.

With regard to Major Beamish's observations on Londonderry Prison we have to report as follows :—

This Gaol is one of the old type, and so constructed that, unless it were entirely levelled and rebuilt, it would be impossible to adapt the accommodation therein to the latest requirements, as regards size of cells, ventilation and sanitary arrangements; but the view adopted by our Board in regard to such Prisons as this when handed over to us in 1878, was, that we should lose as little time as possible in remodelling and reforming the whole establishment so as to improve its sanitary condition in accordance with the rules laid down by Parliament for the better management of the Prisons.

Page 3. The cell accommodation of this Prison is small, but the Board have gone as far as they could, up to the present, in improving both the ventilation, the sewerage, the lighting, and the flooring of the cells, and, considering that so few prisoners whose sentences exceed six months are committed to this Gaol, and the advantage they have in the way of additional open-air exercise, as compared with prisoners in English gaols, the accommodation would appear to be sufficient, and we are glad to be able to show that the health of the prisoners has not in any way suffered by reason of their

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being confined in these small cells; for we do not believe it is contended that, even in England, short-sentenced prisoners cannot be kept in perfect health in Prisons with smaller cells than those now said to be generally necessary for longer sentences.

The number of prisoners committed to this Prison for terms exceeding six months during the last three years were 15, 12, and 32, respectively. Some of these were treated as first-class misdemeanants, and occupied cells containing 675 cubic feet; others were females, placed in cells of 845 and 916 cubic feet.

In addition to these cells there are now provided two other first-class misdemeanants' cells, one containing 1,000 cubic feet, the other 1,600 cubic feet, both boarded, well ventilated, and artificially lighted, so that there is now ample accommodation for prisoners of this class in Londonderry gaol. But, as you are aware, the Board has some time since taken steps to remove all prisoners undergoing sentences of three months or more from this gaol to another in which good accommodation exists. The result will be that only prisoners of very short sentence will be detained in this Prison in future; and, having spare accommodation there, it is the intention of the Board, this year, to enlarge, newly floor, and reconstruct a number of the smaller cells. Provision for this work is being made in the estimates for 1890–91.

Under these circumstances the Board do not think it necessary to enlarge further on the remarks made by Major Beamish on this matter, at pages 3 and 4; for, in theory there is no doubt that his views as to ventilation, lighting, &c., are perfectly correct; but, at the same time, the sanitary history of this Prison, as is admitted by Major Beamish, cannot be excelled by the health-record of any Prison in Great Britain.

Many aspersions have, of late, been thrown upon the cleanliness of this Prison; but it will be observed, that in no instance has Major Beamish in any way referred to a want of cleanliness in any department of the Prison.

The statement made by Major Beamish, at page 4, paragraph 1, is due to a misapprehension on his part, for, with the exception of two cells, the whole of the block referred to, containing fifteen cells, a waiting-room, a bath, and stores for clothing, is used for the "reception class." Here prisoners, having been bathed and dressed, are kept waiting until they have been seen by the Medical Officer, before being passed into their several wards, as provided by the Rules; but, if a very large number of prisoners comes in at one time, no doubt the bath and dressing-room is crowded for a few minutes, but this is unavoidable, and occurs only on rare occasions.

The Chairman, when visiting the Prison in October last, gave directions for putting up a new store for prisoners' private clothing, and these have now been transferred to the new apartment, thus removing Major Beamish's objection on this point. Page 4.

The Chairman, at the same time, gave instructions as to the matters in connection with the Male Hospital, referred to by Major Beamish, at page 4, and steps are being taken for the removal of the Officers' Mess-room from the Hospital to a more suitable apartment at the gate; and the Hospital building will consequently he used in future solely for the reception of sick prisoners, and will afford ample accommodation for the requirements of the Prison, the more so as the number of prisoners is now so much reduced. The objection to the Hospital arrangements made by Major Beamish will therefore be obviated.

Major Beamish does not seem to have taken into account, in his calculation of the amount of Hospital-space available for each prisoner, the average number of prisoners occupying it, for the average number for the past five years has been 1·038, which shows that the accommodation has been considerably in excess of that stated by him to be requisite.*

At page 4, Major Beamish's observations show that he was under a misapprehension in regard to the arrangements for female prisoners, inasmuch as five cells are set apart as reception cells, and are reserved solely for this purpose. In these cells the female prisoners are kept until they have been seen by the medical officer, after being bathed and dressed.

It is, however, true that there are only two baths in the Female Prison. These have always been sufficient for the small number of female prisoners committed there, and it does not appear that there has ever been any real danger of spreading disease—as suggested in his report—(though no doubt such an event might be possible), for

*In the statement of cubic capacity of the three Wards constituting the Male Hospital, given by Major Beamish on page 4 of his report, he has been misled as to the dimensions,—the actual cubic capacity being about three times as great as he had supposed; *i.e.*, the cubic contents of the ward on the ground floor is 4,932 cubic feet, and not 1,592; while the two remaining wards, stated to have each 1,728 cubic feet, have really 5,184 and 4,608 cubic feet respectively. The error probably arose from one of the walls of a ward having affixed to it an old measurement (as given by Major Beamish) the original purpose of which is not clear; but the real cubic capacity shows that the amount of Hospital space is ample for the wants of the Prison.

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under our system, a prisoner committed while suffering from infectious disease would not be bathed until seen by the medical officer, and he always in such cases takes every precaution—and hitherto successfully, against the spread of such disease.

At pages 4 and 5, the Report deals with the subject of the sewerage of this Prison, and it will be seen that, owing to the many improvements the Board have made in these sewers, Major Beamish does not consider that there are any serious defects.

When we got possession of the Prison, the drains were all old-built channels, which have since been reconstructed and laid with pipes, and fitted with disconnecting traps and ventilating pipes.

We have also erected new water closets of modern type, throughout the Prison, and constructed flushing cisterns, by which all the sewers can be fully cleared out daily.

Four of the soilpipes are also used for ventilating the drains, and when the shortness of these drains is considered and that they are disconnected from the sewers and are washed out by the flushing cisterns, we are of opinion that the drainage system here is capable of little or no improvement.

The ventilating pipe in the Female Prison, referred to, at page 5, in Major Beamish's report, would require to be connected with the public sewer of the town, and this must be done by the Corporation.

The Mayor has been spoken to on the subject and the matter will be again brought under his notice, but Major Beamish does not appear to think this matter very essential

Orders have been issued to the Governor of the Prison that the ashpit shall be cleared out monthly. This, however, is a sanitary matter which is always left to the discretion of the Medical Officer, and the Board think that so careful an officer as Sir William Miller would certainly have taken the initiative and ordered its removal at once, if in his daily visits, he had observed any objectionable collection of refuse.

All fœtid matter is carried away at once by the ample drainage and flushing arrangements, and it is clear that bitherto there has been no inconvenience or danger arising from the accumulation of ashes in this pit.

The remainder of Major Beamish's report on this Prison is devoted to the water supply, which subject has, fortunately, been very carefully investigated and attended to by the Board from time to time since the gaol has been in our charge, with the result that the water supply is now thoroughly good, and in order to satisfy ourselves again on this point, we obtained in September last, subsequently to Major Beamish's visit, another analysis by Sir Charles Cameron, a copy of which is attached, showing clearly the excellence of the water.

C. F. BOURKE, *Chairman.*

The Under Secretary, &c., &c.

ROYAL COLLEGE OF SURGEONS, STEPHEN'S-GREEN, DUBLIN,
28th day of September, 1889.

Composition of specimen of water submitted to me for the purpose of analysis by the Governor, H.M. Prison, Londonderry.

One imperial gallon (70,000 grains), contains in grains:—

Colour,	Very slightly turbid and faint yellow.
Odour,	The faint odour of good water.
Total solid matters,	7·000.
Including:—	
Albuminoid ammonia,	0·010.
Saline ammonia,	0·001.
Nitrogen in nitrites and nitrates,	0·070.
Equal to nitric acid,	0·315.
Chlorine,	1·192.
Equal to chloride of sodium,	1·965.
Phosphoric acid,	Faint trace.
Oxygen required to oxidize organic matter,	0·104.
Microscopic examination,	Satisfactory.

This water is a very soft one. It contains a slight excess of albuminoid matter which, however, is evidently derived from a comparatively innocuous source, namely a peaty one. On the other hand, there is almost no ammonia in the saline form and very little nitric acid. On the whole, this water must be placed in waters of the first class. It somewhat resembles the well-known Vartry pipe-water of Dublin, but it contains a little more solid matter.

CHARLES A. CAMERON.

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